

BACKGROUND OF THE INVENTION

now US 6,119,976

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This is a continuation-in-part of U.S. Patent Application Serial Number 09/267,569, filed March 12, 1999, WHICH IS A CONTINUATION-IN-PART OF U.S. PATENT APPLICATION SERIAL NUMBER 09/200668, FILED NOVEMBER 25, 1998, NOW U.S. 6,061,911

An understanding of the operation of the demolition shears or apparati like the present invention may be learned by studying U.S. Patent No. 4,519,135, hereby incorporated by reference. This invention relates to a heavy duty demolition apparatus, especially adapted to be mounted on a rigid boom of a mobile vehicle and particularly adapted to be mounted on the dipper stick of an excavator, with a blade stabilizing device to keep the upper jaw of the apparatus from moving laterally relative to the lower jaw and breaking during the shearing operation on a workpiece.

004,747, 4,188,721, 4,897,921, 4,543,719, 4,558,515, 4,104,792
Heavy duty shears of the type that are powered by hydraulic cylinders are proving more and more useful in handling scrap and especially metal scrap of all sorts. Such scrap comes in many different forms, and may be in the form of pipes made of steel or soft iron or cast iron, ranging in sizes from 2 inches or smaller, and up to 8 or 10 inches in diameter or larger; structural beams such as I-beams, channels, angle beams in a large range of sizes, up to 8, 10, or 16 inches across and larger; rods and heavy cables having diameters of 2 to 3 inches and larger, metal sheets and plates and formed metal of all sorts including wheels and automobile and truck frames, and a myriad of long and short pieces of stock and metal pieces that are cast, rolled, stamped or otherwise formed, both singly and in various types of assembly.

The prior art has included numerous shears such as that illustrated in U.S. Pat. No. 4,198,747; U.S. Pat. No. 4,188,721; U.S. Pat. No. 4,897,921; U.S. Pat. No. 4,543,719; U.S. Pat. No. 4,558,515 and U.S. Pat. No. 4,104,792. Typically, these heavy duty shears mount on the dipper stick of an excavator so that the shears may be controlled fairly well in handling various types of scrap and cutting the scrap into smaller pieces and lengths.

Typically, these shears have a fixed lower jaw and a movable upper jaw that pivots on the lower jaw, with shear blades of hardened steel on both the upper jaw and the lower jaw. The workpiece is sheared by closing the upper jaw against the lower jaw under hydraulic pressure, with the shear blades cutting the workpiece.